

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
9 June 2005 (09.06.2005)

PCT

(10) International Publication Number
WO 2005/052122 A2

(51) International Patent Classification⁷: **C12N**
(21) International Application Number:
PCT/US2004/039189
(22) International Filing Date:
22 November 2004 (22.11.2004)
(25) Filing Language: English
(26) Publication Language: English
(30) Priority Data:
60/481,696 22 November 2003 (22.11.2003) US

(71) Applicant (for all designated States except US):
**SLOAN-KETTERING INSTITUTE FOR CAN-
CER RESEARCH** [US/US]; 1275 York Avenue, New
York, NY 10021 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **GIANCOTTI, Fil-
ippo, G.** [US/US]; 1275 York Avenue, New York, NY
10021 (US).

(74) Agent: **LARSON, Marina, T.**; Oppedahl & Larson LLP,
P.O. Box 5068, 256 Dillon Ridge Rd., 2nd Floor, Dillon,
CO 80435 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHODS FOR CONTROLLING PATHOLOGICAL ANGIOGENESIS BY INHIBITION OF $\alpha 6 \beta 4$ INTEGRIN

(57) Abstract: It has now been determined that $\alpha 6 \beta 4$ integrin is a pro-angiogenic receptor, and thus that it provides a novel and heretofore unrecognized target for anti-angiogenic therapy. Thus, angiogenesis, particularly pathological angiogenesis, can be inhibited, and conditions with which pathological angiogenesis is associated treated using inhibitors of $\alpha 6 \beta 4$ integrin. A tissue in which angiogenesis is to be inhibited is exposed to a therapeutic agent effective to reduce the amount of active $\alpha 6 \beta 4$ integrin in the tissue. The tissue may be within a patient, and in particular a human patient, to be treated for a disease condition with which pathological angiogenesis is associated. The therapeutic agent may be an antibody or a small molecule, for example a laminin-5 analog, which binds to $\alpha 6 \beta 4$ integrin and inhibits its normal function. The therapeutic agent may also be a chemical species that interferes with the production of $\alpha 6 \beta 4$ integrin, including for example an antisense or RNAi species.

WO 2005/052122 A2